

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-11 (canceled).

Claim 12 (currently amended): A ceramic heater comprising:

a ceramic plate having a heating surface configured to face a semiconductor wafer and a bottom surface on an opposite side of the heating surface, the ceramic plate having at least one bottomed hole extending from the bottom surface toward the heating surface;

a heating element formed on ~~[[a]]~~ the bottom surface of said ceramic plate or inside thereof, ~~said ceramic heater being equipped with;~~

a temperature-measuring ~~element for measuring the~~ device configured to measure a temperature of said ceramic plate and position in the at least one bottomed hole;

a fixing device detachably fixing the temperature-measuring device in a bottom portion of the at least one bottomed hole by continuously pressing the temperature-measuring device against the bottom portion;

a control unit for supplying electric power to said heating element;

a memory unit for memorizing a temperature data based on ~~the data of a~~ temperature measured by said temperature-measuring ~~element~~ device; and

an operation unit for calculating electric power required for said heating element from said temperature data,

wherein: ~~a bottomed hole is made, being directed from the opposite side to a heating surface for heating an object to be heated, toward the heating surface;~~ the bottom portion of said at least one bottomed hole is formed ~~relatively nearer~~ closer to the heating surface than the heating element, ~~and a temperature-measuring element is set up in said bottomed hole.~~

Claim 13 (currently amended): The ceramic heater according to Claim 12, wherein said heating element ~~is divided into~~ comprises at least two circuits ~~and different~~ which receive electric powers, respectively ~~are supplied to the respective circuits.~~

Claim 14 (currently amended): The ceramic heater according to Claim 12, wherein said temperature-measuring ~~element is~~ device comprises a thermocouple and a sheath ~~[[type]] housing the thermocouple therein.~~

Claim 15 (currently amended): The ceramic heater according to Claim ~~[[12]]~~ 14, wherein the sheath of said temperature-measuring ~~element is pressed on the bottom portion of the bottomed hole~~ device is filled with MgO and alumina powders.

Claim 16 (currently amended): The ceramic heater according to Claim 12, wherein said ~~temperature-measuring element is pressed on the bottom portion of said bottomed hole~~ by means of fixing device comprises one of an elastic body ~~[[or]]~~ and a screw.

Claim 17 (currently amended): The ceramic heater according to Claim 12, wherein said temperature-measuring ~~element~~ device is sealed in the at least one bottomed hole with an insulator.

Claim 18 (new): The ceramic heater according to Claim 12, wherein the bottom portion of the at least one bottomed hole is formed at between about 0.1 mm and a one half of a thickness of the ceramic plate from the heating surface.

Claim 19 (new): The ceramic heater according to Claim 12, wherein the ceramic substrate has a thickness of about between 0.5 mm and 5 mm.

Claim 20 (new): The ceramic heater according to Claim 19, wherein the bottom portion of the at least one bottomed hole is formed at between about 0.1 mm and a one half of the thickness of the ceramic plate from the heating surface.

Claim 21 (new): The ceramic heater according to Claim 16, wherein the screw is screwed into the at least one bottomed hole.

Claim 22 (new): The ceramic heater according to Claim 12, wherein the fixing device comprises an elastic body and a rod body configured to be pressed by the elastic body.

Claim 23 (new): The ceramic heater according to Claim 12, wherein the sheath has a substantially straight portion and a crooked portion for making contact with the bottom portion of the at least one bottomed hole, the fixing device comprises an elastic body and a rod body configured to be pressed by the elastic body, and the at least one bottomed hole has a cross section which includes a first portion configured to accommodate the substantially straight portion of the sheath and a second portion configured to receive the rod body of the pressing device.

Claim 24 (new): The ceramic heater according to Claim 23, wherein the first and second portion of the bottomed hole forms a keyhole shape cross section.

Claim 25 (new): The ceramic heater according to Claim 12, wherein the sheath has a substantially straight portion and a crooked portion for making contact with the bottom portion of the at least one bottomed hole, the fixing device comprises a screw screwed into the at least one bottomed hole, and the at least one bottomed hole has a first portion configured to accommodate the substantially straight portion of the sheath and a second portion comprising a threaded portion for receiving the screw.

Claim 26 (new): The ceramic heater according to Claim 25, wherein the first and second portion of the at least one bottomed hole forms a keyhole shape cross section.

Claim 27 (new): A ceramic heater comprising:

a ceramic plate having a heating surface configured to face a semiconductor wafer and a bottom surface on an opposite side of the heating surface, the ceramic plate having at least one bottomed hole extending from the bottom surface toward the heating surface;

a heating element formed on the bottom surface of the ceramic plate or inside thereof;

temperature-measuring means for measuring a temperature of the ceramic plate;

fixing means for fixing the temperature-measuring means in a bottom portion of the at least one bottomed hole by continuously pressing the temperature-measuring means against the bottom portion;

controlling means for supplying electric power to said heating element;

memorizing means for memorizing a temperature data based on the temperature measured by the temperature-measuring means; and

calculating means for calculating electric power required for the heating element from the temperature data,

wherein the bottom portion of the at least one bottomed hole is formed closer to the heating surface than the heating element.